

**REMARKS**

The Office Action mailed February 6, 2007 has been reviewed and the Examiner's comments considered. Claims 1-34 are pending in this application. Claims 1, 5, 10-11, 13 and 20 are amended, and claims 6 and 9 are canceled by this amendment. The specification is amended herein. Applicant submits that no new matter or issues have been introduced.

In paragraph 2 of the Office Action, the Examiner alleges that the oath or declaration is defective because it does not identify the mailing address of each inventor. However, the declaration filed on December 15, 2005 was filed on form PTO/SB/01A authorized by the USPTO (see MPEP § 602, Eighth Edition, Rev. 5, August 2006, p. 600-40) along with an Application Data Sheet including the inventor's address, which was noted as being received by the PTO in the Notice of Acceptance dated August 17, 2006 (copy attached). Accordingly, the oath or declaration is not defective as alleged and therefore, Applicant respectfully requests withdrawal of this objection.

In paragraph 3 of the Office Action, the Examiner alleges that the application does not contain an abstract. However, the abstract on p. 25 of the specification was filed with the application on October 31, 2005, was noted as being received by the PTO in the Notice of Acceptance dated August 17, 2006, and was printed on the front of the published application (see US 2006/0265047). Accordingly, the application as filed did contain an abstract (the abstract amended herein) and therefore, Applicant respectfully requests withdrawal of this objection.

**Claim Rejections - 35 U.S.C. § 102**

Claims 1-8 and 13-23 stand rejected under 35 USC § 102(b) as being anticipated by USPAPN 2002/0016597 to Dwyer et al. (hereinafter, "Dwyer"). Applicant respectfully traverses this rejection.

Independent claim 1, as amended herein, recites, *inter alia*, an inner catheter including a wire coil disposed around an inner tube, the wire coil having an intermediate region with a closed-coil structure and at least one of a distal region and a proximal region with an open-coil structure, an outer tube disposed around at least the intermediate region."

Dwyer does not show or describe the feature of “at least one of a distal region and a proximal region with an open-coil structure” and therefore does not show or describe each and every element as set forth in independent claim 1. Accordingly, claim 1 and remaining dependent claims 2-5, 7-8 and 13-23 are believed to be patentable in view of Dwyer and Applicant therefore respectfully requests withdrawal of this rejection.

### **Claim Rejections - 35 U.S.C. § 103**

Claims 9-12, 24-32 and 34-36 stand rejected under 35 USC § 103(a) as being unpatentable over Dwyer, as applied to claim 5, and further in view of USPN 5,690,643 to Wijay (hereinafter, “Wijay”). Claim 33 stands rejected under 35 USC § 103(a) as being unpatentable over Dwyer and Wijay as applied to claim 24, and further in view of USPN 5,458,615 to Klemm. Applicant respectfully traverses these rejections.

Claim 9 is canceled herein, but the subject matter thereof has been incorporated into independent claim 1, as set forth above. The Examiner admits that Dwyer does not disclose “a wire coil having a closed-coil structure in the intermediate region and an open-coil structure in at least one or both of the distal region and the proximal region” (p. 6, Office Action mailed February 6, 2007). The Examiner, however, purports to find these features in Wijay. Specifically, the Examiner alleges:

“Wijay teaches an open-coil structure 36 in at least one of the distal region and the proximal region defining a liquid flow path from the proximal end to the distal end of a catheter including a radially-extending portion through the open coil structure and an annular flow path bounded by the inner tube and the wire coil, in order to permit perfusion to the device so that drugs or blood can be carried through which reduces patient discomfort (Figure 5, col. 4, lines 1-11 and 37-42). It would have been obvious to one of ordinary skill in the art at the time of [the] invention to provide an open-coil structure, as taught by Wijay, to Dwyer.” (p. 6, Office Action mailed February 6, 2007).

Applicant respectfully submits, however, that when Wijay and Dwyer are considered as a whole, there is no desirability for the Examiner's proposed modification. Moreover, Dwyer teaches away from the proposed combination. Accordingly, for at least these reasons, Applicant submits that a *prima facie* case of obviousness has not been established.

The description of FIG. 5 in Wijay reveals that the alleged "open coil structure 36" is "a coil 36 to expand the stent," which is "contracted by a relative twisting between the inner tube 19 and outer tube 6," and which when allowed to relax "increases its diameter and expands the stent 2" previously fit thereover in the tensioned state (col. 4:33-42 of Wijay). In other words, because the coil 36 and inner tube 19 are connected at distal end 22, relative movement of the inner tube 19 and outer tube 6 (in the form of a coil 36) transforms the coil 36 from a relaxed to a tensioned configuration or *vice versa*.

The stent delivery apparatus shown and described by Dwyer, on the other hand, is quite different from that of Wijay. The Examiner describes Dwyer as follows:

"Dwyer discloses an inner catheter 12 ("shaft") and a sheath 14 disposed around at least a portion of the inner catheter, the sheath being retractable in a proximal direction relative to the inner catheter." (p. 3, Office Action mailed February 6, 2007).

As explained in Dwyer, to deploy the stent the physician holds the shaft 12 in a fixed position and slides the sheath "proximal, relative to the shaft 12 as shown in FIGS. 6 and 7" (paragraph [0050] of Dwyer). In other words, the sheath (outer tube) of Dwyer is not connected at its distal end to the distal end of the shaft (inner tube), as shown and described in Wijay. Rather, as noted above, the outer tube is retractable relative to the inner tube and must be in order to deploy the stent. Thus, due to the stark differences between Wijay and Dwyer with respect to the structure of the delivery systems and method of stent delivery, Applicant submits that one skilled in the art would not look to Wijay for modifications of Dwyer.

Further, Dwyer teaches away from the very modification proposed by the Examiner. Whereas the Examiner proposes substituting the open-coil structure of Wijay for the closed-coil structure of Dwyer, Dwyer makes clear that such a substitution would be undesirable:

“Because the stent 100 is self-expanding it is in contact with the sheath<sup>14</sup> and the forces are transferred along the stent<sup>100</sup> and to the stop 40 of the shaft 12. This results in the shaft 12 being under compressive forces. When this happens, the flexible coiled member 24 (no gaps between the coil members) transfers the compressive force from one coil to the next.”  
(paragraph [0039] of Dwyer, emphasis added).

Accordingly, in view of the above, Applicant submits that the proposed combination of references does not establish a *prima facie* case of obviousness, at least because there is no desirability for the proposed modification when Dwyer and Wijay are considered as a whole, and because Dwyer teaches away from the proposed modification. Therefore, Applicant respectfully submits that claim 1, incorporating the features of claim 9, is patentable over the combination of Dwyer and Wijay. As a result, claims depending from claim 1 are also patentable for at least this reason.

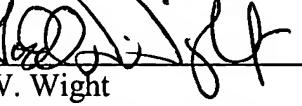
Independent claim 24 also recites an open-coil structure in a wire coil disposed about a portion of an inner tube and therefore is patentable over the combination of Dwyer and Wijay for the reasons set forth above. Claims 25-36 depending from claim 24 are also patentable for at least this reason.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 480052000900. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: May 7, 2007

Respectfully submitted,

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